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MARKETING PROBLEMS OF MAINE POTATO PRODUCERS

By

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Cash income from Maine potatoes and the prices paid by farmers for commodities purchased indicate that incomes varied more than costs according to available data. The years from 1925 to 1930, inclusive, were generally profitable for Maine potato growers. Only in 1928, a year of extraordinarily large crops, did their income fall to a very low level. After 1929, income to potato growers, wages, and prices of materials which farmers purchased all declined, but the decline in income was the greatest, with the result that in years of relatively large crops and low price, many potato growers failed to realize as much money for the crops as it cost to produce them. It is doubtful whether in the years of smaller crops and larger income the gain was sufficient to offset the losses, except for the most efficient farmers on the best farms.

In Aroostook County there is as yet no important substitute for potatoes as a source of cash income. This lack of alternative crops has made it difficult for producers there to shift to the production of other crops and, therefore, has turned the attention of potato growers to marketing. One approach to the marketing problem was on a State-wide basis through the medium of legislation designed to increase the demand for Maine potatoes by improving the quality of potatoes shipped out of the State and also by advertising.

An earlier approach to the marketing problem had been made by a group of individual growers through cooperative marketing. This recognition of the importance of the marketing problem to potato producers in Maine led to a third approach, that of conducting research. A joint research project was undertaken in 1940 by the Maine Agricultural Experiment Station and the Cooperative Research and Service Division of the Farm Credit Administration. The purposes of this research were: First, to obtain a better understanding of the problem; second, to study the efficiency of the organization for marketing in Maine and in Boston; and third, to analyze consumers' habits and preferences in the use of potatoes for the purpose of discovering what steps may be taken to improve demand by meeting the consumers' preference. Five preliminary reports have set forth the results of this study in greater detail.1/ This report is a brief summary of the more important results of the research. It is believed that these results will prove of interest to potato producers in other areas as well as in Maine.

TRENDS IN PRODUCTION AND USE

Many parts of the potato-marketing problem are essentially national in character. First among these is the fact that the use of potatoes per capita has been declining for a number of years. This is the result of a change in the potato-consuming habits of the population. It probably reflects a combination of several factors, outstanding among which is the search for greater variety in food on the part of consumers. This search for variety has been partly gratified through the provision of a greater number and volume of fresh fruits and vegetables. These changes in potato-consuming habits probably do not mean that there has been any material decrease in the proportion of the population using potatoes. In a survey made recently in the Boston metropolitan area, it was found that less than 3 percent of the consumers interviewed reported nonuse of potatoes. No single population group can, therefore, be considered unimportant in a potato-marketing program.

The decline in per capita use of potatoes during the last decade has been almost offset by the increasing population, with the result that the total volume of potato production has been maintained without much change, although variations from year to year have been important.

Although the total potato production for the United States has changed but little since 1920, the sources of the supply have shifted. In Idaho and in California, for instance, production of potatoes has increased. In the early-crop States of the South production during the last 20 years has been almost doubled. In the intermediate States production has generally declined, as it has in some of the late-crop States. In New England, however, production increased largely because acreages of tobacco and

1/ See page 12 for a list of these publications.

onions and probably some truck crops declined. In Maine the trend in production for the last 10 years has shown no important tendency either to increase or decrease.

The marketing problem of Maine potatoe growers lies in the declining use of potatoes by the population as a whole and also in the increase in production in other areas, particularly in New England and in the early-crop States. The effect of increasing early-crop production has been that of bringing a large volume of potatoes into the market early in the spring in competition with the Maine crop. Increased production in New England comes on the market in the early fall in competition with the first marketings from the Maine crop. The result is that a larger proportion of Maine potatoes must be marketed in the winter, which, in effect, shortens the marketing period.

An important phase of the marketing problem thus lies in the increased competition between producing areas for the market and competition between potatoes and those other food commodities which consumers are substituting for potatoes in their diet.

Maintenance of the total production of potatoes at a relatively stable level rests on a continuation of the present rate of increase in population. Authorities on population trends are predicting with increasing assurance that in the United States the ceiling for population is rapidly being reached. If this prediction should be realized, the potato industry as a whole would soon be forced to reduce acreages unless some unforeseen change halts the declining trend in potato use. Competition between producing areas is likely to be even more severe as the problem of reducing acreage and production to meet declining demand becomes increasingly pressing.

It is important, therefore, that potato producers in Maine review carefully the opportunities at their command to strengthen their position within the market. Since they are without important alternatives, the seriousness of their problem is increased. A review of their marketing procedure to eliminate all possible inefficiencies is necessary, and every opportunity should be taken to build consumer good will.

PRICES PAID BY CONSUMERS

Consumers in Boston during March 1940 were asked to report price and kind of package for their most recent potato purchases. These data when tabulated showed that branded packages sold for almost 3 cents per peck more than unbranded packages. This was approximately the added cost of packing branded peck packages from bulk potatoes in Boston.

The data also showed that the range in prices which consumers paid for potatoes was very wide. Although most of the packages were sold at from 39 to 41 cents per peck, many were sold at below 35 cents and many above 45 cents per peck. The study also showed that the higher prices were most likely to be paid by consumers with higher incomes. In addition, these data showed that when the prices of branded peck packages were increased by retailers, widening the spread between branded packages and unbranded packages, many consumers stopped purchasing branded packages and began buying the lower priced unbranded packages.

These facts have considerable importance in the development of a marketing program. For instance, branded packages cannot be priced much higher than unbranded packages of the same grade if a large volume of sales of branded packages is desired. These data seem to indicate that unless some device can be found whereby the volume of potatoes sold in branded packages is materially increased, a selling program directed at the distribution of branded packages alone will have limited advantages, because such a small proportion (about 23 percent in March 1940) of Boston retail sales was made this way. It also shows that any group of producers wishing to sell their product in competition with the large volume sold in bulk in the retail stores must face the fact that it will probably be impossible for them to sell a very large volume at prices much higher than those received for bulk potatoes.

The study did show, however, that there was a group of consumers who paid prices considerably higher than those at which most of the crop was sold. This, of course, indicates that there is a field in which packages of premium potatoes should find a market. In most instances, however, the data seem to indicate that any organization must look to increased volume to reduce cost as the principal source of gain. This should not be interpreted to mean that improvement in the product is not desirable. Such improvement may be the necessary step to increase demand and thereby increase the volume which an organization can sell and thus decrease the cost.

METHOD OF SELECTION

Only 23 percent of the Boston consumers used potatoes purchased in branded packages, and of this 23 percent about four-fifths purchased their potatoes in chain stores. Although the fact that the branded packages were more expensive probably explained, in part, the relatively small proportion of consumers using them, the data indicated that not all consumers were satisfied with their purchases. Thirty-seven percent reported personal selection of the potatoes they bought. This means that the consumer actually looked at the potatoes purchased before buying them, and in many instances actually picked them out of the bulk lot offered. Branded packages were fastened at the top with a wire and were, therefore,

difficult to open for personal inspection. As a result, only a few of the consumers who purchased potatoes by personal selection bought branded packages.

The fact that 37 percent of the consumers resorted to personal selection was considered evidence that the potatoes ordinarily found in branded packages or packed by retailers were not completely satisfactory. It is quite likely that there is a group of consumers who will always select their food products personally when given the opportunity, although this group is probably not as large as 37 percent. Further evidence of the fact that this personal selection was partly the result of dissatisfaction with the contents of previous packages comes from the fact that as incomes increased, the percentage of families making personal selections declined. It has been indicated that the percentage of consumers paying higher prices increased as family incomes increased. Families with higher incomes were more likely to purchase potatoes from retailers who were more careful in making selections for their customers at high prices. As a result, these consumers would not need to make personal selections as would consumers with lower incomes who had to buy at retail stores where prices were lower and margins narrower, and where the original bulk lots were bought at lower prices and were not so well graded.

With reference to damage, the research showed considerable mixing of grades on the part of some of the wholesale distributors in Boston, and it was reasonably certain that rough handling in the process of marketing caused some damage. It was also thought that a considerable part of the damage observed in the various retail packages was present at the time the packages were shipped from Maine.2/

The importance of these conclusions lies in their relationship to market practices. If standardization of size is important, this type of standardization should be undertaken at the shipping point because it can be more cheaply done there than at any other place along the route to the consumer. It now appears that the work which some producers might do for the purpose of improving the demand for their product may be largely undermined because of mixing or of rough handling on the part of wholesale distributors later in the marketing channel. It is desirable, therefore, that producers should review their distribution system carefully in an effort to devise means whereby they can carry their own crops, at least to the point of initial distribution in the wholesale market.

PRICE AND QUALITY

Data were gathered in retail stores to show the price and also the variation in sizes and in proportion of defects contained in packages when potatoes were offered for sale. These data provided

2/ Later research has verified these assumptions.

further information on the lack of standardization in retail packages. For instance, at any given price at which a large volume of potatoes was offered for sale, packages showed a wide range in sizes as well as in defects. This fact alone indicates only a meager relationship between the desirable characteristics of the potatoes and the prices at which they were sold. It also indicates that a consumer purchasing a package of potatoes which had formerly proved to be satisfactory had little assurance that a second package of the same brand would be equally satisfactory. Such a condition seriously limits the effectiveness of advertising or of retailer service on the part of any selling organization.

In order to stimulate the demand for a product, it is necessary to find out what characteristics of that product are prized by consumers. It is then important to prepare the package to include these characteristics. A program for packing potatoes with reference to consumers' preferences includes pricing of the lot offered for sale, adequate labeling of those packages when the contents are not visible, and careful selection of sizes, as well as reducing damage to uniformly low percentages, since consumers recognize and object to it.

Standardization should be conducted with reference to the characteristics of the product which consumers most desire, and packages which have those characteristics in a high degree should be priced accordingly.

CONSUMERS' PREFERENCES

An outstanding preference of Boston consumers was for uniform size. More than 71 percent of those interviewed in March indicated that a wide range in sizes in an individual package was not desirable. Of equal importance was the preference of the consumers reporting a definite preference for baking size. More than 62 percent preferred potatoes with a diameter of 2-1/2 inches or over, whereas only 10 percent preferred them less than 2-1/2 inches in diameter. Only a few consumers reported a preference for potatoes as small as 2 inches in diameter, and almost as few reported a preference larger than 3 inches. More consumers reported a size preference for baking potatoes than for any other use, and most consumers reported as satisfacotyr a range in size in any package not exceeding one-half inch in diameter.

These size preferences for potatoes; namely, uniform size and medium size, were outstanding so far as producers are concerned. It has rarely been the practice of producers to size potatoes in this way. They should carefully review their packing procedure and study the costs which are likely to be incurred in putting up packages for consumers to make these sizes available to any consumer wishing to pay average or slightly higher prices for them.

Potatoes not so carefully selected as to size should be offered for sale at lower prices.

Based on other reports of preferences by consumers, potatoes to be sold at premium prices should, if possible, be clean and bright, although the preferences for clean and bright potatoes were not so marked as those for properly sized and uniform potatoes. However, the proportion of families reporting preferences for uniformity, size, cleanness, and brightness increased as the family income increased, pointing to the fact that consumers who have these preferences in the largest degree are also those consumers who are best able to pay for them.

In the matter of cooking qualities, consumers prefer potatoes that are dry and mealy. This is probably directly related to the strong preference for baking potatoes. Dryness and mealiness are not factors which producers can take into account at any given time in their marketing program. Producers should take these characteristics into account insofar as practical by producing varieties in which these characteristics are inherent.

CONSUMERS' DISLIKES

Consumers dislike potatoes of small size. They also dislike potatoes that are very large, although not as much as small ones. There was, however, a special demand for large potatoes on the part of hotels and restaurants.

Small potatoes should be sized separately from potatoes designed to sell at average prices or higher. They should be packed and sold for the satisfaction of those consumers to whom low price is an important consideration. In the field of cooking quality, consumers expressed dissatisfaction with potatoes that were soggy or cooked black. These, of course, are characteristics over which producers can exercise some control through selection of varieties.

Consumers also dislike damaged potatoes in the packages they buy. In an effort to obtain information on this subject, inspectors viewed the last purchase of potatoes in the homes of consumers. The consumer was asked to separate from the potatoes at hand those which, in her judgment, contained damage in excess of what should properly appear there. The potatoes were then inspected by the Federal-State inspector conducting the interview to determine whether the damage would have been classified as such under the standards as applied to the U. S. No. 1 grade, or whether the potatoes would have been eliminated by strict application of the requirements for that grade. About 40 percent of the consumers agreed entirely with the inspector. About 30 percent of the consumers regarded as damaged fewer potatoes than the inspector took out in interpreting the defects according to the standards for U. S. No. 1 grade. More than 70 percent of the consumers, therefore, would have been satisfied with the potatoes at hand had all the damage, interpreted as such by U. S. No. 1 standards, been removed from the packages. The remaining 30 percent of the consumers regarded as damaged more potatoes than would have been so regarded on the basis of U. S. No. 1 grade standards.

These data indicate that a rigid interpretation of the U. S. No. 1 standard in packing consumer packages, and retailing these packages to consumers without handling damage would satisfy more customers. The standards themselves are perhaps as satisfactory as could be selected for use in a population of many consumers with different personal characteristics and preferences. Producers of potatoes should exert every effort to deliver to Boston consumers a package in which damage as defined according to grading standards is eliminated. This is particularly the case for those potatoes packed and standardized for sale at a premium.

DEALERS' PRACTICES

It has been previously indicated that the research showed some dealers' practices inconsistent with the idea of a highly standardized package for delivery to consumers. Although some dealers maintained high standards for the quality of their package, sizing more rigidly and removing damage more carefully than was customary on the part of producers, others followed the practice of mixing grades of potatoes to undersell competitors or to obtain a greater margin of profit.

It is quite likely that such a practice is limited to those years when the crop is small and the prices high. The range in prices between the various quality grades must be wide enough to make the gain from mixing greater than the cost of the operation. Some of the large percentage of damaged and undersized potatoes found in the packages inspected during March 1940 may have been the result of mixing. Also, some of the dissatisfaction expressed by consumers was the result of purchasing packages in which the small-sized and damaged potatoes had been deliberately included.

In the Boston market there was, on occasion, considerable damage created because of lack of care in handling. It is unlikely that Maine potatoes can be sent from producers' warehouses to the retail store without an increased percentage of damage. It is quite likely, however, that if this process were completed by a distributor whose employees were more interested in the reputation of these potatoes among Boston consumers and in the preservation of the quality, the amount of damage might be decreased. Producers should carefully consider the possibility of developing methods in which physical handling of the crops would be more closely entrusted to those who recognize the importance of careful handling to maintain quality.

EFFICIENCY IN BOSTON MARKET ORGANIZATION

Much attention has been paid during recent years to the efficiency of the wholesale market organization in terminal markets. Many of these markets have in certain respects become obsolete, although they are still used. The fact that independent retailers frequently

are forced to use these markets as sources of supply is sometimes cited as a reason why they are handicapped in their competition with the chain or with voluntary retailers' associations. The fact that these markets are in some respects inefficient is just as important to producers as it is to retailers or consumers because a large proportion of their product must pass through these markets. In Boston, for instance, most of the potatoes from Maine arrive at the Charlestown Market. The Charlestown Market dealers, however, are very specialized, handling relatively few products in addition to potatoes. Retailers, therefore, find it inconvenient to stop at Charlestown Market to buy their potatoes, preferring to buy them at one of the other markets where a larger number of the items they require can be purchased at one time.

At Faneuil Hall Market, also in Boston, Maine potatoes have to compete with potatoes distributed by truck because it is at Faneuil Hall that most truck receipts for wholesale distribution in Boston are unloaded. Unloads by truck are so far as possible prohibited at the Charlestown Market and the Boston Market Terminal

The Faneuil Hall Market does not have rail facilities and is so small as to be badly congested, causing loss of time because buyers are unable to move freely and quickly in and out of the market place. Potatoes arriving at the Charlestown Market, but sold at Faneuil Hall, have to be hauled from Charlestown to Faneuil Hall with an additional handling and trucking charge added to the cost of marketing.

The Boston Market Terminal is also an important distribution point for potatoes, but potatoes arriving at Charlestown have to be reconsigned in freight cars to the Boston Market Terminal at additional cost. This passing of the crop around from market to market or from dealer to dealer within the wholesale market adds to marketing cost and makes the distribution system less efficient than it would be if more direct routing were possible. There is no market place with all methods of transportation in Boston where all types of dealers can purchase and sell without restriction.

The need for reorganization of the Boston wholesale market in the interest of more efficient distribution is a problem which potato producers should take seriously into account. They should recognize the inefficiencies of distribution through the medium of these wholesale markets as they are now organized and avoid insofar as possible long-term commitments or contracts for facilities in these market places.

TRANSPORTATION COST

The high cost of transportation from Aroostook County to Boston has long been recognized as one of the serious marketing problems. Recently, a tendency to ship potatoes from Maine to Boston by truck

has been noted. The possibilities of extending this type of distribution are now being investigated. Transportation by truck is likely to require the accumulation of more capital on the part of potato growers because it will require additional equipment. It is, therefore, suggested that the lack of a device for a sufficient capital accumulation is one of the marketing problems of potato growers. In anticipation of any activity which might be taken for the purpose of solving the marketing problems in other directions, these growers might well proceed at once to set up machinery through cooperative marketing which would increase the rate of accumulation of operating capital for marketing purposes.

CONCLUSIONS AND SUGGESTIONS

As a result of the research in Boston and from a study of the various competitive trends in potato production, the following conclusions are offered.

I. It is doubtful whether a program of more careful standardization will provide an outlet for a large volume at much higher prices. Retailers of potatoes in Boston have not offered packages to consumers in such a way as to make it possible for research to demonstrate this point. The fact that consumers paid a wide range in prices indicates that some of them were trying to purchase more satisfactory products. The fact that many of them paid low prices indicated that to others price was an important consideration.

   Some carefully packed potatoes could be sold at premium prices. There may be some tendency for such premiums to be offset because of the necessity of selling the low-grade stock separately and at lower prices. The greatest gains from a more carefully selected consumer package are likely to result from a greater volume which can be sold in Boston by an organization using these methods.

II. The research showed considerable irregularity in the contents of consumer packages with respect to size and percentage of defects. It also showed many consumers making personal selection from bulk lots of potatoes to satisfy their family requirements. It indicated that consumers prefer a package closely sized within one-half inch limits and with the greatest combination of preferences from 2-1/4 to 3 inches in diameter. It further indicated that reduction in the percentage of potatoes having defects as described in connection with the U. S. No. 1 grade would increase consumer satisfaction.

A grading program for Maine potatoes which takes these preferences into account would embrace the following ideas:

1. Sizing of table stock for sale under brands from a minimum of 2-1/4 inches to a maximum of 3 inches in diameter, using the present definitions for damage in the U. S. No. 1 grade, but packing in Maine to tolerance of 3 percent or less in order that the 6-percent tolerance in any package would rarely be exceeded at destination.

2. A grade sized under 2-1/4 inches for sale where dictated by price competition.

3. The packing of potatoes over 3 inches in diameter separately for sale to restaurant trade and in cases where special demand makes a market for large potatoes.

4. Packing two grades of "Bakers," one sized from 2-1/4 to 2-3/4 inches, the other from 2-1/2 to 3 inches, and removing all defects possible from these two premium grades.

Such a sizing program requires strict control of grading. It is important that buyers have complete confidence in the grades as this practice will reduce selling costs and losses occasioned by refusal of buyers to accept deliveries.

III. The practices of dealers in the Boston market have not always been consistent with marketing potatoes to inspire confidence in retailers, jobbers, and consumers. The practice of mixing lots, or of changing packages or tags, has sometimes been resorted to as a means of deception to increase operating margins.

Boston wholesale markets are in some cases inefficient because of restrictions in some of them and lack of facilities in others.

One alternative would be more direct routing of potatoes to retailers for the purpose of maintaining control of table stock far enough in the distribution process to bypass the points in the market where these practices and inefficiencies occur.

IV. A merchandising program requires readiness to sell; that is, keeping brands available to buyers at all times. To be successful, a selling program needs to be continuous. The development of means whereby this can be easily and inexpensively accomplished will be important to the success of such a program.

PRELIMINARY REPORTS

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b. Foelsch, Gertrude G. and Sprague, Gordon W., Marketing Maine Potatoes: A Preliminary Report of Purchase and Use of Potatoes and Substitutes in Homes of Boston Consumers, March 4 to April 6, 1940. Cooperative Research and Service Division, Farm Credit Administration, in cooperation with Maine Agricultural Experiment Station. Misc. Rpt. No. 27. 40 pp. 1940.

c. Hincks, Maynard A. and Sprague, Gordon W., Marketing Maine Potatoes: A Preliminary Report of Organization and Market Practices in Maine and Boston. Cooperative Research and Service Division, Farm Credit Administration, in cooperation with Maine Agricultural Experiment Station. Misc. Rpt. No. 31. 29 pp. 1940.

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e. Foelsch, Gertrude G., Marketing Maine Potatoes: Boston Retail Prices as Associated with Types of Packages, Retailers, and Consumer Incomes, February 26 to April 6, 1940. Cooperative Research and Service Division, Farm Credit Administration, in cooperation with Maine Agricultural Experiment Station. Misc. Rpt. No. 36. 32 pp.

f. Hincks, M. A., Spangler, R. R., and Sprague, Gordon W., Marketing Maine Potatoes: Damage in Selected Bags at Maine Shipping Points and in Boston Wholesale and Retail Markets. Cooperative Research and Service Division, Farm Credit Administration, in cooperation with Maine Agricultural Experiment Station and Agricultural Marketing Service, U. S. Department of Agriculture. Misc. Rpt. No. 39. (In press.)